Amendments to the Drawings:

The attached replacement drawing sheet makes changes to Fig. 3 and replaces the original sheet with Fig. 3.

Attachment: Replacement Sheet (1)

REMARKS

Claims 1-12 are pending in this application. By this Amendment, claim 1 has been amended and claim 13 added. Support for newly added claim 13 is found in the specification at page 12, lines 13-14. The replacement sheet for Fig. 3 adds the reference number 40, which is mentioned in line 15 at page 9 of the application. Accordingly, as agreed at the interview, the drawing sheets are in compliance with 37 C.F.R. §1.83(a). Thus, it is respectfully requested that the objection be withdrawn. No new matter has been added.

Applicant appreciates the courtesies shown to Applicant's representative by Examiner Hiruy and Supervisory Examiner Martin at the June 16, 2005, personal interview. Applicant's separate record of the substance of the interview is incorporated into the following remarks.

In paragraph 3, on page 3 of the Office Action, claims 7-12 were rejected under 35 U.S.C. §112, first paragraph. The rejection is respectfully traversed.

As discussed at the interview, the Office Action mistakenly asserts that the features recited in the claims are not enabling. As the MPEP §2164.01 states, "The test of enablement is whether one reasonably skilled in the art could make or use the invention from the disclosures in the patent coupled with information known in the art without undue experimentation." *United States v. Telecronics, Inc.*, 857 F.2d 778, 785 (Fed. Cir. 1988). One skilled in the art can clearly make and use the features as recited in the claims from the disclosures in the application. For example, looking at Fig. 9 of the application, the control CPU 184 calculates a generator power Pg of the motor generator MG1 and the motor power Pm of the drive motor generator MG2 (S4) (page 13, lines 24-27). The control CPU 184 then determines whether the sum of motor power Pm and generator power Pg, namely Pm + Pg, is 0 or not (S5) (page 13, lines 31-33). As explained by the Applicant, "If the sum Pm + Pg is 0, control CPU 184 disconnects DC power supply 30 from neutral points M1 and M2 to drive motor generators MG1 and MG2. When the sum Pm + Pg is not zero, control CPU 184

drives motor generators MG1 and MG2 with DC power supply 30 connected to neutral points M1 and M2" (page 13, line 33 - page 14, line 4). Accordingly, as clearly demonstrated in Fig. 9, the control CPU 184 is using the number 0 as part of its logical steps in analyzing whether to disconnect DC power supply 30 from neutral points M1 and M2. It is the sum of outputs from two motors that is tested, not the output of a single motor. Thus, the features recited in claims 7-12 are enabling and it is respectfully requested that the rejection be withdrawn.

At the interview, the Examiners were misinterpreting the phrase "a third step of disconnecting, when said sum is equal to zero, a power supply from respective neutral points of two three-phase coils included in said 2Y motor," as recited in claims 7 and 10 (emphasis added). As clearly recited in claims 7 and 10, the power supply from the respective neutral points of two of the three phase coils included in the 2Y motor is reduced in the third step. Accordingly, the power supply to the 2Y motor is not turned off or completely disconnected. Thus, there is power being supplied to either of the two motors.

In addition, the Examiners are inappropriately applying the enablement requirement to the depending claims of claims 7 and 10 by asserting that, in their belief, when the sum is zero both motors are at zero. The Examiners believe that this would make the dependent claims inoperable. However, the Examiners are misapplying the requirement of §112, first paragraph. First, as discussed above, the power being supplied to either of the two motors is not disconnected, but is only reduced by disconnecting the power supply from the respective neutral points of two of the three-phase coils included in the 2Y motor. Secondly, as discussed at the interview, the first power of the 2Y motor can be negative and the second power of the electric motor can be positive or the first power can be positive and the second power can be negative. Accordingly, when the negative is added to the positive, the total can equal zero. For example, a positive two plus a negative two equals zero.

Furthermore, the first power of the 2Y motor refers to the generator power Pg determined by multiplying the generator command torque (TR1) by the number of revolutions (MRN1) of the motor MG1 (generator) and the second power of the electric motor refers to the motor Pm determined by multiplying the motor command torque (TR2) by the number of revolutions (MRN2) of the motor generator MG2 (motor) (page 21, lines 14-28). The sum of the calculated first power and the calculated second power corresponds to the sum of the generator power Pg and the motor power Pm, Pg + Pm (page 21, lines 14-28). Accordingly, there is a relationship of supply and demand between the generator power Pg and the motor power Pm and, if the power of the demander is positive, the power of the supplier is inevitably negative. Accordingly, the sum of the generator power and the motor power can be zero when the supply and the demand are balanced. At this time, the motor generator MG2 (motor) operates by using the generator power Pg. Thus, the test of enablement is satisfied because one skilled in the art can clearly make and use the features as recited in the claims from the disclosures in the application. It is respectfully requested that the rejection be withdrawn.

In paragraph 4, on page 3 of the Office Action, claim 1 was rejected under 35 U.S.C. §112, second paragraph. The rejection is respectfully traversed.

As agreed at the interview, the amendment to claim 1 clarifies the structural cooperative relationships between the features recited therein. Accordingly, claim 1 overcomes the §112 rejection. It is respectfully requested the rejection be withdrawn.

In paragraph 5, on page 4 of the Office Action, claims 1-3 were rejected under 35 U.S.C. §103(a) over Rippel et al. (Rippel), U.S. Patent No. 5,099,186 in view of Ono et al. (Ono), U.S. Patent No. 6,295,487. The rejection is respectfully traversed.

As discussed at the interview, Applicant's invention of claim 1 calls for a power output apparatus comprising a first inverter; a second inverter; a 2Y motor having a first

three-phase motor coil and a second three-phase motor coil functioning as stators, energization of the first and second three-phase motor coils being controlled respectively by the first and second inverters; a power supply connected between a first neutral point of the first three-phase motor coil and a second neutral point of the second three-phase motor coil; and an electric motor connected with the 2Y motor for at least one of supplying and receiving electric power therebetween. The alleged combination of Rippel and Ono fails to disclose or suggest these features.

Firstly, what the Office Action alleges as a 2Y motor for Rippel (Fig. 1) does not correspond to Applicant's 2Y motor. As clearly shown in Fig. 1 of Rippel the induction motor 12a and the induction motor 12b are not a single 2Y motor, but are two separate motors. As Rippel describes, the two-motor arrangement as shown in Fig. 1, includes first and second induction motors 12a, 12b, respectively, that convert electrical power to mechanical power delivered at their rotors 14a, 14b to their output shafts 16a, 16b, respectively (col. 3, lines 40-45). However, Rippel does show in Fig. 2 a single motor 13 having two coupled sets of stator windings 80a, 80b that includes two motor halves (col. 5, lines 24-27). The motor 13 also includes a rotor 82 and a motor shaft 84 (col. 5, lines 29-30). As Rippel describes, for vehicle applications, the shaft can be coupled directly to a single wheel or coupled to two wheels via a reduction-differential gear or a transmission-differential gear combination (col. 5, lines 30-34).

Although Rippel does describe a single motor 13 which more closely corresponds to Applicant's 2Y motor, nowhere does Rippel disclose or suggest that the single motor 13 is in any way coupled to or used in combination with the two separate motors 12a, 12b. In fact, in describing Fig. 2, Rippel states that "A system similar to the two-motor scheme of FIG. 1 is illustrated in FIG. 2, wherein a single motor 13 is constructed in accordance with the present

invention," (col. 5, lines 23-25). Thus, Rippel is completely silent about whether the single motor 13 can be utilized in combination with the two separate motors 12a, 12b.

The Office Action alleges Ono makes up for the deficiencies of Rippel because Ono describes an electric motor 13 (Fig. 3) that is different from the 2Y motor. However, as MPEP §2143.01 states, "There are three possible sources for a motivation to combine references: the nature of the problem to be solved, the teachings of the prior art, and the knowledge of persons of ordinary skill in the art." *In re Rouffet*, 149 F.3d 1350, 1357 (Fed. Cir. 1998). The level of skill in the art cannot be relied upon to provide the suggestion to combine references. *Al-Site Corp. v. VSI Int'l Inc.*, 174 F.3d 1308 (Fed. Cir. 1999). The nature of the problem that Rippel was trying to solve was reducing the overall weight of the system. As Rippel states, "System weight is minimized because energy storage components, such as inductors and capacitors, are minimized, drive system and battery recharge systems are optimally integrated such that one set of components serves both functions, and the need for a transmission and differential gear is eliminated." (col. 1, lines 35-40). Ono, on the other hand, is addressing the problems effecting fuel efficiency due to conventional traction control systems for controlling wheel spin (skid) (col. 1, line 64 to col. 2, line 29). Accordingly, one of the objectives of Ono is to provide a hybrid vehicle which can improve the energy efficiency and prevent the running performance from lowering to remedy poor behavior of the vehicle at occurrences of a skid (col. 2, lines 30-33).

As Ono describes, when one of the wheels 5 driven by an engine 7 skids to rotate excessively, a motor 13 connected to that wheel is caused to make a regenerative operation to remedy the skid of the wheel, and running traction made insufficient due to the skid is compensated by driving another wheel 4 by a motor 12 of another wheel by using electric energy recovered by the regenerative operation (Abstract). Therefore, there is no motivation to make the alleged combination to achieve the desired features as recited in claim 1 because

Rippel is trying to eliminate the weight and volume associated with the drive system, for example, eliminating the transmission and differential while Ono is trying to improve the traction control of the wheels by adding motors 13, 12.

Further, Rippel teaches away from applying Ono because Rippel is concerned about the overall simplification of the motor drive/recharge system 10 and adding a second motor only complicates the system described by Rippel. As MPEP §2141.02 states, the prior art must be considered in its entirety, including disclosures that teach away from the claims. The fact that Rippel is trying to simplify the motor drive/recharge system 10 by minimizing the system weight and the need for a transmission and differential gear in order to increase the system efficiency (col. 1, lines 46-47) teaches away from adding a second electric motor which only complicates the system and adds more weight. Further, as shown in Ono's Fig. 1, the motor 13 is coupled to the transmission of the engine. Thus, Rippel would have to add an engine plus a transmission and differential in order to operate Ono's motor 13. Accordingly, the alleged combination lacks the required suggestion under 35 U.S.C. §103 to modify the power output apparatus to achieve the desired features recited in claim 1.

Because the combination of Rippel and Ono does not disclose or suggest all of the features recited in claim 1, it cannot possibly render obvious the subject matter of claim 1. Further, at least for the reasons discussed with respect to claim 1, as well as for the additional features recited, claims 2 and 3, which depend from claim 1, are also not rendered obvious by the combination of Rippel and Ono. Thus, withdrawal of the rejection is respectfully requested.

As to newly added claim 13, claim 13 depends from claim 1 and is allowable for the reasons discussed with respect to claim 1, as well as for the additional features recited. Further, claim 13 has an advantage that the voltage step-up or the step-down operation for charging the DC power supply is carried out by the 2Y motor so that the efficiency of the

electric motor supplying and/or receiving motive power to and/or from the drive shaft can be made maximum (page 23, lines 17-28). The alleged combination of Rippel and Ono fails to disclose or suggest these features.

In contrast, the single motor 13 of Rippel uses electric power supplied from the single-phase AC power source 34 to recharge the battery 26 (Fig. 2; col. 5, lines 24-56). As shown in Fig. 2, the battery 26 receives the electric power from the single-phase AC power 34 through the neutral ports of the single motor 13. The single motor 13 uses the battery 26 as its power source. Thus, the alleged combination does not obtain the advantage of claim 13 because Rippel does not disclose or suggest that the single motor 13 performs a voltage step-up or step-down operation and that the efficiency of the electric motor is also improved.

In paragraph 6, on page 6 of the Office Action, claims 4-6 were rejected under 35 U.S.C. §103(a) over Rippel in view of Ono and Koide et al. (Koide), U.S. Patent No. 5,936,312. The rejection is respectfully traversed.

As discussed at the interview, Koide fails to overcome the deficiencies of the combination of Rippel and Ono as applied to claim 1.

Further, Koide's control unit does not correspond to Applicant's control unit because Koide's control unit is a totally different structure, which performs a different function. As Koide describes, the power output apparatus controls the engine, power regulations means, and the motor, based on a deviation of power output from the engine from the target power of the engine (col. 3, lines 38-41). More specifically, Koide's control CPU 90 corrects the target power of the engine to decrease the deviations of the power and thereby correct the power output from the engine to the drive shaft through the power regulation means and the motor (Fig. 4). Koide, however, does not disclose or suggest that the control CPU 90 controls the first and second inverters to allow the 2Y motor to function as an electric generator and controls the third inverter to allow the third inverter to drive the electric motor by electric

power generated by the 2Y motor as recited in claim 4. Thus, the alleged combination does not disclose or suggest the features of claim 4.

Because the combination of Ono, Rippel, and Koide does not disclose or suggest all of the features recited in claim 1, it cannot possibly render obvious the subject matter of claim 1. Further, at least for the reasons discussed with respect to claim 1, as well as for the additional features recited, claims 4-6, which depend from claim 1, are not rendered obvious by the combination of Rippel, Ono, and Koide. Thus, withdrawal of the rejection is respectfully requested.

In view of the foregoing, it is respectfully submitted that this application is in condition for allowance. Favorable reconsideration and prompt allowance of claims 1-12 are earnestly solicited.

Should the Examiner believe that anything further would be desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact the undersigned at the telephone number set forth below.

Respectfully submitted,

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JAO:KPG/tea

Attachment:
Replacement Sheet (1)

Date: July 13, 2005

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